DOCUMENT RESUME

ED 142 951 CS 003 581

AUTHOR Roets, Lois F.
TITLE Behavior Modification Program for First Graders to Improve Study Skills and Habits in Relation to Reading.
PUB DATE Apr 77
NOTE 24p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York City, April 1977)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Behavioral Objectives; *Behavior Change; Change Strategies; *Classroom Techniques; Educational Research; Grade 1; Motivation; Primary Education; Reading Improvement; *Reading Instruction; *Reading Research; *Reinforcers; Rewards; Student Behavior; *Study Skills

ABSTRACT

This paper discusses behavior modification principles designed and implemented to increase the on-task performance of 22 first-graders during study and class time for two daily reading periods. Acceptable behavior in class included listening and participation in activities and, during study time, included keeping busy with reading activities and not disturbing others by noise or conversation that didn't pertain to the lessons at hand. Baseline data were collected in a two-week period by noting interruptions, timing actual instruction, and counting the number of words recognized in isolation or in sentences in a basal reading series. Color-coded charts denoting students' performance behavior were displayed in the classroom starting with the third week; they were maintained for seven weeks. The reinforcement schedule was fixed at one prize per week's performance, and students who earned prizes were given additional verbal encouragement. Results show that effort at on-task performance increased, the frequency of disturbances lessened, and continual progress in word recognition took place. (RL)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED14295

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

BEHAVIOR MODIFICATION PROGRAM FOR FIRST GRADERS TO IMPROVE STUDY SKILLS AND HABITS IN RELATION TO READING

Research designed and implemented by Ms. Lois F. Roets, classroom teacher, at Pardeeville Area Schools, Pardeeville, Wi 53954

Presentation of research given at AERA convention, New York City, 1977

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Lois F. Roets

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS."

Mailing address of author: Ms. Lois F. Roets
5305 Queensbridge Road
Madison, Wi 53714

" True freedom comes only from the development of a sufficiently large repertoire of behaviors that permit the individual to select from a multiplicity of potential behavioral options." Sulzer.

" By increasing the number of responses available to the individual, he is freed from limitations imposed by such things as learning deficits and fears and anxieties that have led to avoidance or failing responses. The availability of a diversity of behavior plays an important role in evolutionary development and survival."
B.F. Skinner

CS003581

TABLE OF CONTENTS

Table of Contents. i

Chapter One: Introduction 1

Chapter Two: Review of Literature 4

Chapter Three: Methods 7

Chapter Four: Results 10

Chart 1.a Frequency of Disturbing and Attentive Behaviors For All 20 Ss 10

Chart 1.b Frequency of Disturbing and Attentive Behaviors for 7 Ss 11

Chart 2 PerCent of Classtime Spent in Instruction 13

Chart 3 Word Recognition Increase for Total 20 Ss 14

Chart 4 Total Behavioral Points Earned by All 20 Ss 15

Chart 5.a Correlation Between Total Behavioral Points and Word Increase 15

Chart 5.b Correlation Between Total Behavioral Points and Rank Order by Teacher 15

Chapter Five: Summary 16

References 17

Appendix A. Sample Record Sheet 18

Appendix B. Sample Individual Record Sheet 19

CHAPTER ONE

Introduction

Need for a Behavioral Program

It was the fourth week of school year 1975-1976 and still no manageable procedure had been established for conducting classes that mastered learning in reading at a sufficient rate of speed. Quiet study habits which did not interfere with work of others were not being established. While one group of first graders was having class, the other two groups of 1st graders were working independently or with a teacher aide. Attempts to improve on-task performance and progress in reading had been tried: varying seating arrangements, different types of classes, varied use of aide and various types of independent work. No program tried so far had improved on-task performance during class or during independent seat work or activities with the teacher aide. Since reading was considered to be the most important academic subject for the first grade, the two hours of reading a day was the object of improvement. These two hours were divided into two periods of about an hour each.

Nature of a Behavior Modification Program

Behavior modification is a process of changing behavior through the systematic application of the methods and experimental findings of behavioral science. It is based on the belief that many behaviors are learned behaviors and that behaviors are often repeated as Ss respond to repeated stimuli. Behavior modification theory states that by changing stimuli or breaking a chain of sequences, many behaviors can be modified.

Reinforcing appropriate actions and by negatively reinforcing or extinguishing inappropriate behavior, actions can be changed. (Staats and Staats, 1963; Forster and Skinner, 1957; Wolpe, 1964; Mayer,1972). To be able to change one's actions gives a S a feeling of personal command of oneself; of sensing that the locus of control lies within the S himself rather than external forces making S act regardless of internal desires. This ability to select behaviors and to recognize choices helps in adaptibility of the human person and also gives true freedom. Sulzer (1972) says that true freedom comes only with the development of a sufficiently large repertoire of behaviors that permit the individual to select from a multiplicity of potential behavioral options.

Description of the Study

The Ss for this project were 20 first grade students in one division of Pardeeville Elementary School with the project manager being their classroom teacher and writer of this paper. These students range from low average to high average--the routine group of children in any one classroom. Measures of behaviors would be in the following areas:

1. Percent of time spent in actual teaching rather than in correcting or managing classroom for other than instructional purposes.
2. Ability of the child to work quietly and independently while at seatwork; cooperatively with the teacher aide and attentively and diligently during classtime with the reading teacher.
3. Increase the number of words learned.

Value of the Study

Hopefully, this project would improve classroom management and allow

the classes in reading to progress smoothly with each child learning independent study habits and mastering the material presented. The procedures used would establish key phrases which would, hopefully, transfer to all classes and bring the class to order when it wandered too far from regular class work.

Specific Goals

1. Greater utilization of time for actual teaching instruction rather than correction; greater concentration during independent work time.
2. More self-control which would develop better study habits and respect for study time of others.

CHAPTER TWO

Review of Literature

Broad Views of Behavioral Self-Control

Man's history has been a history of control. Man began, or so it seems, entirely at the mercy of his external environment. Man gradually developed more and more control of the environment. Today mankind has a power to change many significant environmental events, from controlling flood waters to cooking a roast in less than a half hour in a microwave oven. In man's desire for survival, the area of self-control remains a constant challenge to his abilities. For all time, men have sought to change and control themselves as they have changed and controlled their outside environment. Philosophers and religions have extolled the wisdom of self-control as a way to a happier life and to greater satisfaction of living. Seneca, Pythagoras, Locke, Goethe, Carlyle, Milton and Shakespeare have praised the merits of self-control in their writings. Both eastern and western religions entreat their followers to exercise control over forces within and without themselves.

More recently, the concept of self-control has undergone scientific analysis and has determined definite patterns of habit formation and methods of setting new habits or sequences of behaviors. Just as the early physical sciences made dramatic progress after replacing philosophical explanations with more empirical ones, the area of self-control has benefited from more scientific analysis. The intangible innerself concept is being replaced by a concept that views man's actions as behavior influenced in some ways by the environment.

Value of Self-Control

Self-control patterns possess survival value. A person's ability to control body weight, food and alcohol intake, muscular training, left-to-right visions patterns and myriads of other behavioral patterns, all help the person survive. (Stuart and David, 1972). Society values the controlled individual. Self-regulation mediates the influence of social more and customs. (Bandura and Walters, 1963; Aronfreed, 1968; Kanfer, 1971). Many cultures consider their major responsibility to train persons to direct, maintain and control their actions without continual surveillance. Ability to control one's actions is often related to intelligence.

In addition to social and survival values, controlled behaviors seem to be marked by definite motivation patterns. Some evidence suggests that a person's perceived control over his environment can motivate the person to act (Lefcourt, 1966; Rotter, Chance and Phares,1972). The question of whether self-regulation is more rewarding than external regulation has received more speculation than research attention.

Early Work on Behavioral Control

Mary Cover Jones (1924) reasoned that if fears can be conditioned, then they can be unconditioned. She presented feared stimulus with a pleasant stimulus until the pleasant stimulus became more powerful than the fear. Social modeling was done to overcome fears. Also in 1924, Burnham stated that a strong trained response can dominate a weaker response. Mowrer and Mowrer (1938), in an article on eneuresis, stated that eneuresis was a condition that failed to respond to a specific stimulus, in this case a filled bladder. They argued that stimuli can

be used to evoke certain responses, either naturally or by training. Wolpe (1954) "rediscovered "operant conditioning, another term for behavior modification, with his technique of desensitization. This approach employed muscular relaxation techniques designed by Jacobson for asthamatic patients. Coupled with the muscular relaxation is the presenting of painful stimuli by suggesting situations which create anxiety in a lesser to greater sequence. This learning process helps the S to relax muscles while facing anxiety-provoking situations.

All this work, which is based largely on a Pavlovian theory of classical conditioning, came to popular acceptance with more respectable scientist psychologists giving credibility to the procedures. Skinner and Bandura in the 1950's and 1960's lent an air of respectability to operant conditioning and modification programs.

Behavioral Control in Relation to Academic Learning

Children have been found to exhibit higher rates of academic behavior (studying, problem solving) when they were allowed to choose their own reinforcer and the contingencies for earning them (Lovitt, 1969; Lovitt and Curtiss, 1969). Individual response rates were higher even when the self-imposed reinforcement conditions were identical to those previously imposed by a teacher. This suggests that the ability to choose one's own reward conditions has a significant influence on performance.

By increasing the number of responses available to the individual, he is freed from limitations imposed by such things as learning deficits and fears and anxieties that have led to avoidance or failing responses. The availability of a diversity of behavior plays an important role in evolutionary development and survival (Skinner, 1969).

CHAPTER THREE

Methods

Baseline Data

Baseline data was collected before Ss were told of any new approach. By means of stopwatch and timer, minutes actually spent in teaching or instruction per group were recorded. This data was converted to percentages since the total number of minutes per group sometimes varied depending upon the daily schedule and particular needs of the group or an individual. The number of interruptions during class or seat work or with aide was noted and recorded for two weeks. A system of color coding was established: red - no interruptions during the two hours; blue - 1 or 2 interruptions; and green - three or more. See Appendices A and B for recording form and sample of an individual's record.

A check of words recognized was made. Using the basal series, Ginn 360, number of words recognized as isolated words and in sentences was counted. This was perhaps an insufficient measure of prereading and reading ability, but it did give a good baseline for words recognized.

Initiation of the Program

Beginning the third week, the charts were exposed and their recorded color-coded X's were explained. The reinforcement schedule would be on a fixed ratio of one prize per five days or a week's performance. In order to select from the box of prizes (items ordered from a novelty shop), a S was required to have four out of five red X's. Should the week only have four days, then the prize was earned for three out of

four. Ss were told that the following behaviors counted as interruptions: talking or visiting with other students, showing work, doing something other than assigned work or allowed classroom activities, bothering others when they completed their assigned work or any physical action that disturbed others such as noises , whistling, etc., not keeping the place in class or making negative comments about another student's answers and any audible tapping or vocal noises.

Maintaining the Program

Charts were kept in full sight of all and red, blue and green marks were recorded. Children were verbally praised when real efforts were being made to control their desire to socialize or neglect the tasks at hand. A dot-to-dot book was given to each child to assure that each child had something to do when finished should he not be able to find something better to do and hence the temptation to disturb others may overcome the S. Dot-todot books have great value to children as they are teaching sequence of numbers or alphabet and each page represents a small packet of work easily completed. There usually is some curiosity about what the dots form. Terms and phrases, such as "This is taking down name time," and "This is quiet work time," "This is reading time so it is quiet time," were used quite often in hopes of establishing these phrases as keys or stimuli for good work habits.

On Friday, many words of encouragement were given to those students who earned their prize. No scolding was done to those who did not receive the necessary red X's. Either the S had the necessary red X's and received a prize or the S was simply told "No, there are not enough red X's."

The fourth week of the program, work packets were issued to each student. This involved about five words or several letters of the alphabet that should be learned in isolation or in sentences or words. If these were mastered by the end of the week, an additional prize could be earned. These work contracts did not continue through the entire project. This was a weakness of the program as far as the writer is concerned. The packets were discontinued because the words were not easily mastered and the same packets would have had to be used for more than one week. Also, there was insufficient time to really prepare meaningful learning packets each week.

At two other times throughout the seven weeks of the program, a stopwatch and timer were used to determine actual classtime minutes and seconds spent in directing learning.

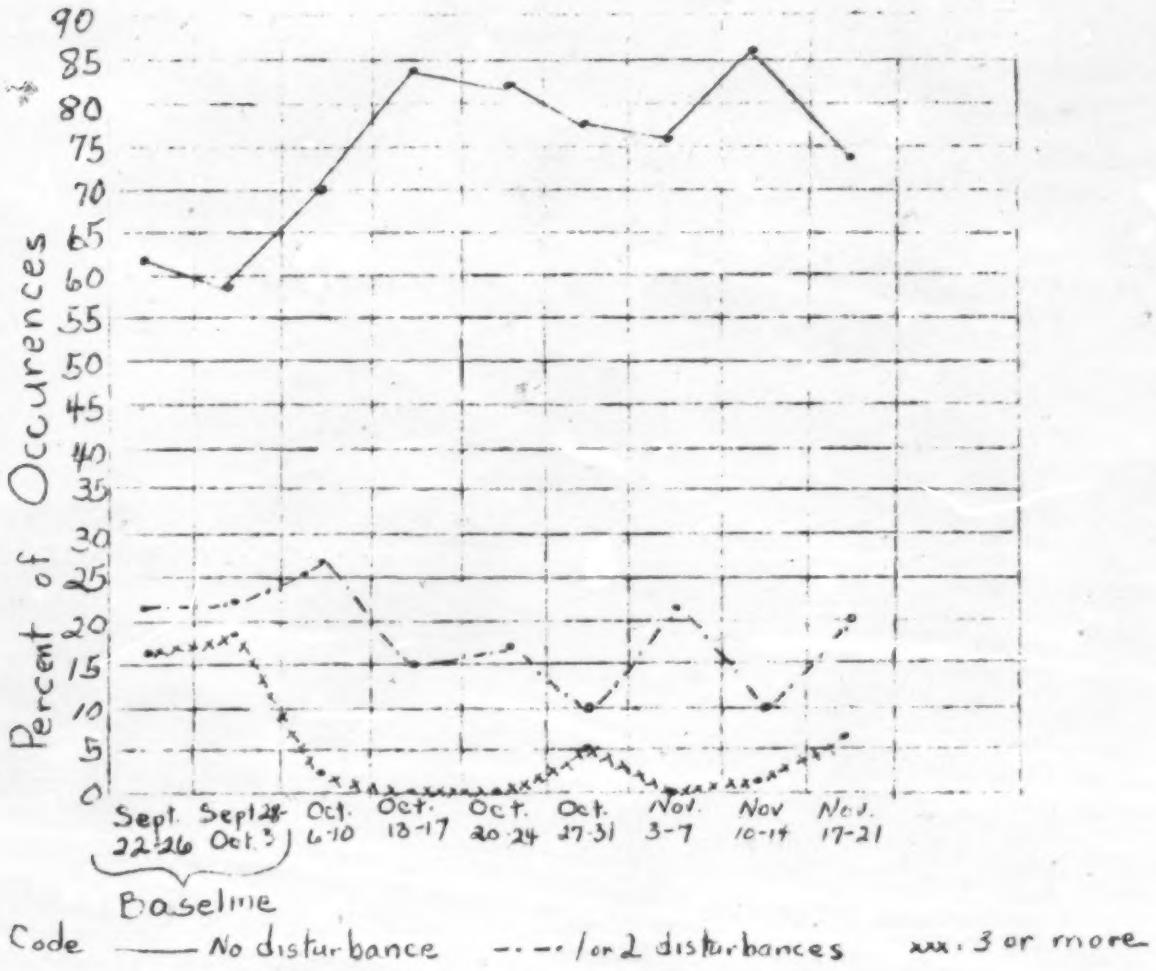
The data collected during the two weeks of baseline period and the seven weeks of implementing the program will be discussed in the following chapter four.

CHAPTER FOUR

Results

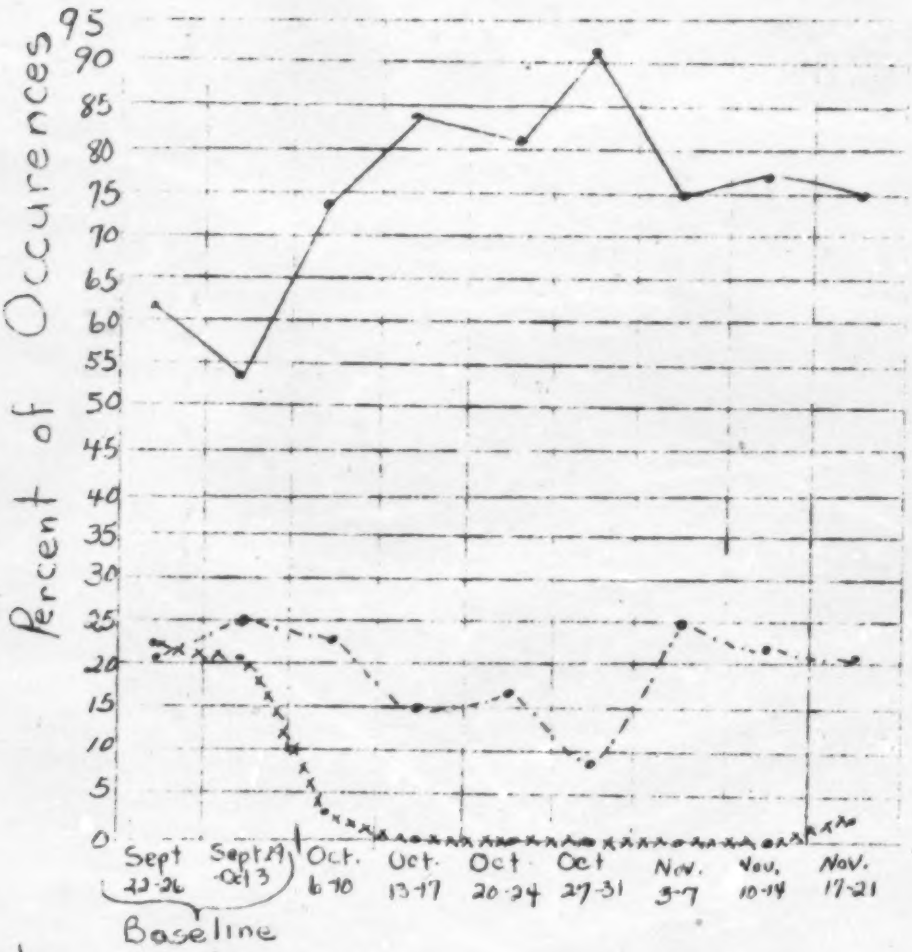
During the two hours of reading per day, Ss were monitored by the teacher who took down names and frequency of disturbing behaviors. Definition of disturbing behaviors has been previously given. It should be noted that a S who read in a whisper to himself as an effort to help him with seatwork was not called disturbing. Charts 1.A and 1.b which follow show the frequency of disturbances and on-task performance.

Chart 1.a Frequency of Disturbing and Attentive Behaviors For all 20 Ss



Since it was the better readers, 7 Ss who caused many disturbances, Chart 1.b is shown to show their behavior patterns as the program progressed.

Chart 1.b Frequency of Disturbing and Attentive Behaviors for the Top Group of Readers, N=7 Ss



Code ___ No disturbances; -·-·- 1 or 2 disturbances; xxxx 3 or more disturbances

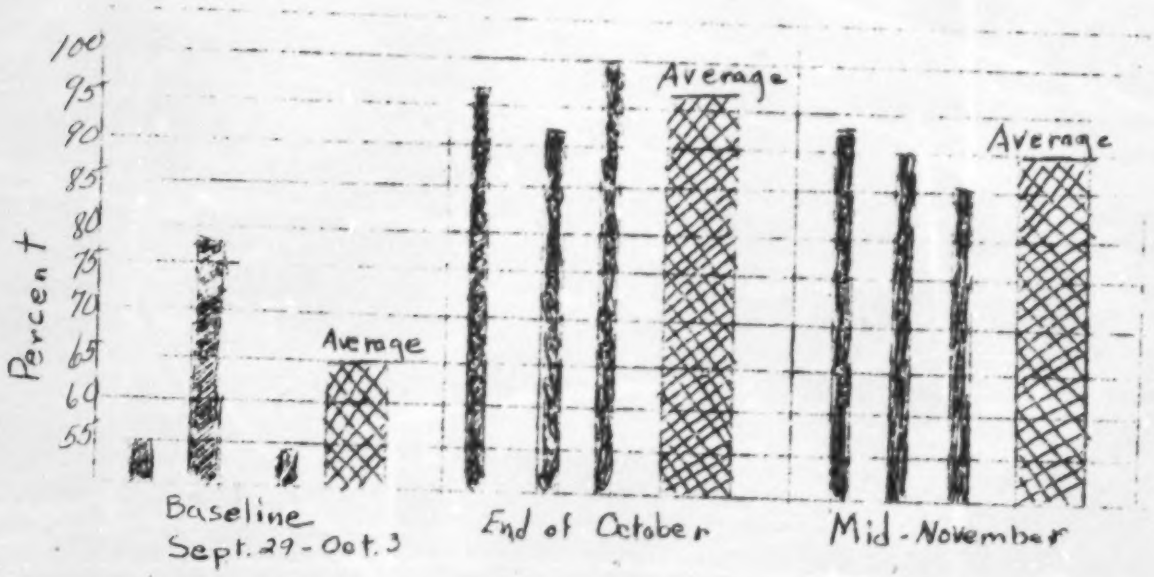
Chart 1.a and 1.b show frequency of disturbances and on-task performance. The first two weeks were spent in establishing baseline and the system of recording. Color coding seems to work the best. The week of October 6 - 10 was the initiation period for the Ss. Reward systems were clearly explained and reward trinkets shown. Behaviors acceptable and not acceptable were clearly explained. As the charts clearly show, effort at on-task performance increased and frequency of disturbances lessened. It is interesting to note that Ss causing 3 or more disturbances (shown as xxxxx) per daily reading classes were reduced to almost nothing. Disturbances of once or twice frequency per day does not seriously disrupt class as total reading per day was two hours.

The reward system was on a fixed ratio of once a week. It appears that, perhaps, the week of November 3-7 would have been a better time to change from fixed to intermittant reinforcement schedule as on-task performance decreased, slightly in the total 20 Ss but more dramatically in the subsample of 7 above average Ss.

If no other work was done for this project, the project would, in the opinion of the writer, be called a success. The classroom now runs smoothly from one class to the next. Disturbances were of low frequency. The phrases such as "It's quiet work time," etc. now quickly bring a distracted class to attention.

Chart 2 shows the utilization of classtime for actual teaching.

Chart 2. Percent of Classtime Spent in Instruction



Three classes were timed per monitoring session. The average for that day is shown in the diagonally marked column in the bar graph. Percentages clearly show that very little class time is spent in activities other than activities related to learning. Again, from this standpoint, the program is viewed as successful.

Academic Performance

The next phase was more difficult to measure. Did increased on-task performance help academic advancement? Since the Ss were all first graders, the only objective norm was the number of words recognized in isolation and in sentences. Words were taken from the basal series Ginn360. In baseline data 13 Ss recognized no words in isolation or in sentences. Seven Ss, above average, had mastered 12 words in isolation and in sentences. At the end of the project, each S was again checked by the same criteria. Chart 3 shows the increase.

Chart 3. Word Recognition Increase for Total 20 Ss

Words Recognized	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Number of Ss	2	3	8	0	0	2	5
Median - 20			Mean 22.65				

It is the opinion of the researcher that many more words were mastered other than those words from the basal. Much additional group and individual reading had occurred. To make an attempt to measure this increase was considered detrimental to the rigors of the experimental design employed. Hence, only the increase of word recognition based on basal series was included in the presentation of data and data analysis.

In an attempt to see if better or quieter study habits led to an increase of word recognition, correlations were computed. Three factors were to be considered in studying the correlational relationships: 1) numerical total of behavior charts, 2) numerical increase in word recognition from basal, and 3) rank ordering of the students from low (rank order No. 1) to rank order of 20, highest. To determine numerical value for the behavior charts, a point system was devised: red (no disturbing behavior) was equal to 3 points; blue (1 or two disturbances) was given 2 points and; and green (three or more disturbances) was given one point. If a S was absent, no points were given for the day. The following chart 4 shows the range of behavioral points for all 20 Ss.

Chart 4. Total Behavioral Points Earned by All 20 Ss

Total Points	116	115	114	109	107	106	105	103	102	99	98	94	91	90	87	77
Number of Ss	2	1	2	1	1	2	1	2	1	1	1	1	1	1	1	1
Median = 104 Mean 102.6																

Numerical total for word increase was computed by taking the total at the end of November and subtracting the baseline total. Rank ordering of students was done by the teacher based on subjective judgment of reading performance. Correlations between rank order and total behavioral points and correlations between word increase and behavioral points are shown in Charts 5.a and 5.b

Chart 5.a Correlation Between Total Behavioral Points and Word Increase

Total Sample	Males	Females
N = 20	N= 10	N = 20
r = .27	r =.36	r = .10

Chart 5.b Correlation Between Total Behavioral Points and Rank Order by Teacher

Total Sample	Males	Females
N = 20	N = 10	N = 10
r =.29	r =.38	r =.19

Slight positive trends occur in correlating behavioral points to academic improvement as measured by word recognition. It should be noted that males correlated at a higher rate than females.

CHAPTER FIVE

Summary

Positive Benefits of the Program

The statistics show that increases in proper use of class and study time took place. Continual progress in word recognition took place. Key phrases now bring the class to attention or quietly working.

Positive comments were made concerning the project. The teacher feels more comfortable with this group. The teacher aide remakred that the group was more conscious of not bothering others. During parent teacher conferences, 3 parents requested more information about the program as their child seemed to like it a lot. The principal commented, after visiting the room during reading class, how interested the children seemed in the work they were doing.

Limitations of the Study

It was difficult to assess both during baseline collection and after 7 weeks of the program, the prereading and reading skills of the first grade Ss. Perhaps a standardized test could be employed. A Skills inventory would have been easy to use. However, the most important part of reading is understanding words as they appear in isolation and in context. Therefore, perhaps the best way to measure ability was to narrow the field to that particular aspect that could be measured by words from a basal series. There was no control group to compare with the experimental group.

References

Cooper, John O. Measurement and Analysis of Behavioral Techniques. Columbus, Ohio: Charles Merrill, 1974.

Cronbach, L. Educational Psychology. Chicago: Harcourt, Brace and World, 1963.

Good, Thomas L., and Brophy, Jere E. Looking in Classrooms. Evanston, Illinois: Harper and Row, 1973.

Hamachek, Don E. Behavior Dynamics in Teaching, Learning and Growth. Boston: Allyn and Bacon, 1975.

Mohan, Madan, and Hull, Ronald E. Individualized Instruction and Learning. Chicago: Nelson-Hall Co., 1974.

Ringness, T. Mental Health in the Schools. New York: Random House, 1972.

Spache, George D., and Spache, Evelyn B. Reading in the Elementary School, Boston: Allyn and Bacon, 1973.

Sulzer, Beth and Mayer, G. Roy. Behavior Modification Procedures for School Personnel. Hinsdale, Illinois: Dryden Press, 1972.

Thoreson, Carl E. and Mahoney, Michael J. Behavioral Self-Control. Chicago: Holt, Rinehart and Winston, 1974.

Name _____ X no disturbances (red) 1 or 2 disturbances (blue) 3 or more disturbances (green)

Sept 22-26 Sept 27 Oct 3 Oct 6-10 Oct 13-17 Oct 20-24 Oct 27-31 Nov. 3-7 Nov. 10-14 Nov 17-21

Appendix A Sample Record Sheet 15

Name Lois

X no disturbances (red)

1 or 2 disturbances (blue)

3 or more disturbances green

	Sept 22-26	S 29-Oct 3	Oct 6-10	Oct 13-17	Oct 20-24	Oct 27-31	Nov 3-7	Nov 10-14	Nov 17-21
M			X	X		X			X
T				X			X	X	
W				X	X	Halloween Party many interruptions no names taken	Absent	X	
Th	X	X	X	X	X	teachers Convention	Absent	X	X
F	X	X	X	X	X		Absent	Teacher Absent no ratings given	X
Notes									

Appendix B Sample Individual Record sheet 19.